

REMARKS

Claims 33-63 remain pending. In the present Office Action, claims 33-35, 37-38, 44-46, 48-49, and 55-57 were rejected under 35 U.S.C. § 102(e) as being anticipated by Thorson, U.S. Patent No. 6,055,618 ("Thorson"). Claims 33-40, 42, 44-51, 53, 55-60, and 62 were rejected under 35 U.S.C. § 102(e) as being anticipated by Sharma, U.S. Patent No. 6,094,686 ("Sharma"). Applicants respectfully traverse these rejections and request reconsideration. Claims 41, 43, 52, 54, 61, and 63 were objected to as being dependent from a rejected base claim, but would be allowable if rewritten in independent form.

Applicants respectfully submit that each of claims 33-63 recites a combination of features not taught or suggested in the cited art. For example, claim 33 recites a combination of features including: "a posted command virtual channel dedicated to posted request packets, and wherein a given posted request packet communicates a request that is considered completed by a source of the request upon transmission of the request by the source, and wherein transmitting the posted request packet comprises transmitting on the posted command virtual channel". The cited art does not teach or suggest the above highlighted features.

Applicants note that the present Office Action states an allegedly reasonable interpretation of "posted request packet" in light of applicant's specification. Particularly, the Office Action states that "a given posted request packet communicates a request that is considered completed by a source of the request upon transmission of the request by the source" is interpreted to mean a request that does not use flow control (See Office Action, page 2, item 2). Applicants respectfully submit that these interpretation is unreasonable, both in light of Applicants' specification and in light of the plain meaning of the terms to one of ordinary skill in the art.

The above interpretation from the Office Action conflicts with Applicants' specification, and thus is not a reasonable interpretation in light of the specification. Applicants' specification describes a plurality of virtual channels, including a posted

command virtual channel with a definition of posted requests as highlighted above. Additionally, separate from the above description, the plurality of virtual channels (including the posted command virtual channel), are flow controlled for various embodiments described in the specification. For example, the specification at page 10, lines 21-31 states that any flow control mechanism may be used, and then goes on to describe a "coupon-based" scheme in which a packet transmitter ensures that a buffer of the appropriate type (corresponding to the virtual channel of a packet to be transmitted) is available in the receiver prior to transmitting the packet. This flow control mechanism is used as an example in the rest of the specification, although other mechanisms may be used. The specification describes an info packet that is used to transmit flow control information (page 18, lines 25-27). An example of such a packet is shown in Fig. 18 and described in the specification at page 40, line 16-page 41, line 15. Note the PostCmdData and PostCmd fields in Fig. 18 and the corresponding description at page 40, line 20-22 that describes these fields as corresponding to the posted command virtual channel. Furthermore, checking for buffer availability (an example of flow control) is described in the specification at various other points (e.g. page 19, lines 15-18 and 28-31; page 36, lines 28-32; page 38, lines 5-8; and page 51, lines 26-29). Thus, interpreting the above language to mean that flow control is not used conflicts with the specification.

Furthermore, Applicants submit that flow control has nothing to do with whether or not a request is considered complete at the source. Flow control is related to physically controlling the transmission of the packet to the destination. Logically determining whether or not a request is considered complete has nothing to do with the physical control of the transmission of the packet to the destination using flow control. Thus, flow control is either implemented, or not implemented, independent of when the source considers the request to be complete. Accordingly, the interpretation advanced in the Office Action is not consistent with the plain meaning of the words to one of skill in the art (see MPEP 2111.01, for example).

The rejection of claim 33 over Thorson relies on the above interpretation. Particularly, the Office Action alleges that Thorson anticipates the posted command

virtual channel with the maintenance channel 60, stating that the maintenance channel uses no flow control as described in Thorson at col. 9, lines 1-10. However, as highlighted above, flow control has nothing to do with "a given posted request packet communicates a request that is considered completed by a source of the request upon transmission of the request by the source". Applicants can find no teaching in Thorson that communications in the maintenance channel have the above recited features. Accordingly, Thorson fails to anticipate claim 33 for at least this reason.

Furthermore, Sharma fails to teach or suggest the combination of features recited in claim 33. For example, Sharma fails to teach or suggest "a posted command virtual channel dedicated to posted request packets". The Office Action notes that Sharma teaches hierarchical virtual channels QIO, Q0Vic, Q0, Q1, and Q2. However, none of these virtual channels are dedicated to posted request packets. Furthermore, Sharma fails to teach "a given posted request packet communicates a request that is considered completed by a source of the request upon transmission of the request by the source" as recited in claim 33.

The Office Action, on page 5, asserts various possible interpretations in which Sharma could allegedly read on claim 33. Applicants respectfully disagree. In a first assertion, the Office Action refers to the QIO channel being added to eliminate flow dependence cycles between response messages from the IO system and memory space commands from the IO system (Sharma, col. 41, lines 35-37, referring further to the definition of flow dependence at col. 40, lines 37-54). However, the elimination of flow dependence cycles has nothing to do with posted request packets, wherein "a given posted request packet communicates a request that is considered completed by a source of the request upon transmission of the request by the source" as recited in claim 33.

In a second assertion, the Office Action alleges "Another possible interpretation is the type of command such that other types of commands may also read on the above-limitation. For example, a read RD command or a read modify Rmod may read on the above-limitation since these requests may not require an acknowledgment" (Office

Action, page 5, lines 9-13). Applicants respectfully submit that this assertion is vague and the alleged relationship to the claims is unintelligible. Furthermore, no teachings of Sharma are cited to substantiate the assertion. Applicants submit that nothing related to command types teaches or suggest the above highlighted features. With regard to the example of the RD and Rmod commands, Applicants note that there is no virtual channel in Sharma that is dedicated to RD or Rmod commands (see table II in col. 42, in which any channel that includes the RD or Rmod commands also includes other commands).

In a third assertion, the Office Action alleges that Sharma's teachings regarding dedicated queues, buffers, or paths for each channel and Sharma's teachings related to the global port always being able to transfer data are somehow related to claim 33, although the alleged relationship is quite unclear in the Office Action. Applicants respectfully submit that none of the cited teachings from Sharma teach or suggest "a posted command virtual channel dedicated to posted request packets, and wherein a given posted request packet communicates a request that is considered completed by a source of the request upon transmission of the request by the source, and wherein transmitting the posted request packet comprises transmitting on the posted command virtual channel".

For at least all of the above-stated reasons, Applicants submit that claim 33 is patentable over the cited art. Claims 34-43 depend from claim 33 and recite additional combinations of features not taught or suggested in the cited art. Given the above remarks highlighting the patentability of claim 33, Applicants have not provided additional remarks with regard to claims 34-43 at this time. However, Applicants reserve the right to supply such additional remarks on appeal.

Claim 44 recites a combination of features including: "a posted command virtual channel dedicated to posted request packets, and wherein a given posted request packet communicates a request that is considered completed by a source of the request upon transmission of the request by the source, wherein the first node is configured to transmit a posted request packet on the posted command virtual channel". The same flawed interpretation of "a given posted request packet communicates a request that is

considered completed by a source of the request upon transmission of the request by the source" discussed above and the same teachings of Thorson and Sharma used in the rejection of claim 33 are used in the rejection of claim 44. For reasons similar to those given above, Applicants submit that claim 44 is patentable over the cited art. Claims 45-54 depend from claim 44 and recite additional combinations of features not taught or suggested in the cited art. Given the above remarks highlighting the patentability of claim 44, Applicants have not provided additional remarks with regard to claims 45-54 at this time. However, Applicants reserve the right to supply such additional remarks on appeal.

Claim 55 recites a combination of features including: "circuitry configured to transmit a posted request packet on a posted command virtual channel of a plurality of virtual channels ... wherein the posted command virtual channel is dedicated to posted request packets, and wherein a given posted request packet communicates a request that is considered completed by a source of the request upon transmission of the request by the source". The same flawed interpretation of "a given posted request packet communicates a request that is considered completed by a source of the request upon transmission of the request by the source" discussed above and the same teachings of Thorson and Sharma used in the rejection of claim 33 are used in the rejection of claim 55. For reasons similar to those given above, Applicants submit that claim 55 is patentable over the cited art. Claims 56-63 depend from claim 55 and recite additional combinations of features not taught or suggested in the cited art. Given the above remarks highlighting the patentability of claim 55, Applicants have not provided additional remarks with regard to claims 56-63 at this time. However, Applicants reserve the right to supply such additional remarks on appeal.

Specification Amendment

Applicants have amended the specification to include the specific reference required under 35 U.S.C. § 120 to prior applications to which the present application is claiming priority. The prior applications are co-pending and have a common inventor with the present application (namely, James B. Keller). Applicants note that the present application was filed prior to November 29, 2000, and thus the time limits for presenting

a priority claim under 37 C.F.R. § 1.78 do not apply. Applicants include herewith a supplemental declaration signed by the inventors asserting the priority claim.

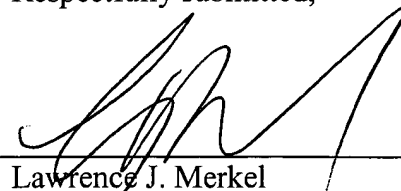
CONCLUSION

Applicants submit that the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5500-98400/LJM. Also enclosed herewith are the following items:

- ☒ Return Receipt Postcard
- ☐ Petition for Extension of Time
- ☐ Request for Approval of Drawing Changes
- ☒ Notice of Appeal
- ☒ The Commissioner is hereby authorized to charge the Notice of Appeal fee of \$330.00 to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account No. 501505/5500-98400/LJM.
- ☒ Other: Supplemental Declarations

Respectfully submitted,



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